

**COMMITTEE ON SCIENCE
U.S. HOUSE OF REPRESENTATIVES**

HEARING CHARTER
Business Actions to Reduce Greenhouse Gas Emissions

**June 8, 2005
10:00 a.m.
2318 Rayburn House Office Building**

Purpose

On June 8, 2005, the Science Committee will hold a hearing on what several leading businesses in a variety of industries are doing to reduce emissions of greenhouse gases.

The Bush Administration has initiated a number of programs to encourage businesses to take voluntary actions to reduce emissions of greenhouse gases. Either as part of the Administration programs or other efforts, many U.S. companies are working to reduce greenhouse gas emissions. (See attached list.) Some companies have begun simply by taking stock of the emissions they produce. Others have set targets for reducing their emissions and are taking steps to meet them by improving energy efficiency, switching to energy sources that produce fewer greenhouse gases, or eliminating greenhouse gases from manufacturing processes.

The motivations of these companies vary. Some find the scientific evidence of a changing climate compelling. Others face domestic or international competitive pressure, while others face pressure from lenders or shareholders. Some see advantage in creating new products or businesses that may hold a competitive advantage in future markets. Still others see financial risk to their businesses should the climate change substantially.

The Committee plans to explore the following overarching questions at the hearing:

1. What concrete actions are businesses taking to reduce greenhouse gas emissions?
In what ways are these actions beneficial to the company?
2. Why are businesses taking these actions and what are the most important drivers for them?

Witnesses:

Mr. James E. Rogers, Chairman, CEO and President, Cinergy Corp. Based in Cincinnati, Cinergy provides electricity to 1.5 million customers in Ohio, Indiana and Kentucky, has more than 7,000 employees, and generated \$4.7 billion of revenue in 2004. It owns 13,000 megawatts of electric generating capacity and is largely reliant on coal as a fuel source. Cinergy and Duke Power, a major utility in the Southeast United States, recently announced plans to merge.

Dr. Mack McFarland, Environmental Manager, Fluorochemicals Business, E.I. DuPont de Nemours and Company. As a multinational chemical and product manufacturer based in Delaware, DuPont ranks 66 among the Fortune 500, with 55,000 employees worldwide and 2004 revenues of \$27.3 billion.

Mr. Ron Meissen, Senior Director, Engineering, Environment, Health & Safety; Baxter International Inc. Baxter is a global health-care company that supports treatment of medical conditions including hemophilia, immune disorders, kidney disease, cancer, trauma and other conditions. Based in Deerfield, Ill., and with facilities throughout the United States and the rest of the world, Baxter has 51,000 employees and generated \$8.9 billion of sales in 2003.

Dr. Robert Hobbs, Director of Operations, United Technologies Research Center, United Technologies Corporation (UTC). Ranked 22 among the Fortune 500 and based in Connecticut, UTC businesses include Carrier heating and cooling, UTC Fire & Security systems, Hamilton Sundstrand aerospace systems and industrial products, Otis elevators and escalators, Pratt & Whitney aircraft engines, Sikorsky helicopters and UTC Power fuel cells. In 2004, UTC had 210,000 employees and generated \$37 billion in revenue.

Background

Carbon dioxide (CO₂) is a greenhouse gas and an inevitable product of combustion. It is the greenhouse gas that has received the most attention, but others gases such as methane, nitrous oxide, hydrofluorocarbons and sulfur hexafluoride are also produced by human activities and have a greater greenhouse effect than CO₂.

In a speech in February 2002, President Bush “reaffirmed America’s commitment...to stabilize atmospheric greenhouse gas concentrations at a level that will prevent dangerous human interference with climate,” and initiated a number of voluntary programs aimed at reducing greenhouse gas emissions. Specifically, the President has committed to reducing the nation’s greenhouse gas intensity – the amount of greenhouse gases emitted per unit of economic activity – by 18 percent by 2012. Several states and other countries have contemplated or are now attempting to implement mandatory emission-reduction policies.

In May 2001, the Bush White House requested a report from the National Academy of Sciences on the status of scientific understanding of climate change. The Academy’s reply is attached.

What are companies doing to reduce their greenhouse gas emissions?

A number of United States-based businesses have begun to inventory and reduce their greenhouse gas emissions. These are some of the activities companies are undertaking:

Identifying and tracking greenhouse gas emissions. An inventory is necessary to establish a company's baseline of greenhouse gas emissions. It is usually the first step for any company planning to set a reduction target, to develop options for reducing emissions, and to track progress toward a target. It is also necessary for any company wishing to accurately assess the risk posed by any particular shareholder resolution, regulatory proposal, or lending policy related to climate change. Moreover, it is essential for companies participating in voluntary or mandatory greenhouse gas trading market. According to economists, trading markets would lower the costs of any future greenhouse gas regulation, should one be implemented.

Companies have developed a variety of approaches for inventorying their greenhouse gas emissions. While all companies generally include direct emissions from internal operations, they must also decide whether to include indirect emissions generated from the electricity they buy or from the products they sell. Utilities, for example, tend to count only those emissions that are directly the result of generating electricity. Energy intensive manufacturers, however, include not only the emissions generated in their manufacturing processes, but also usually include in their inventories emissions generated by the electricity they purchase to power their operations. Appliance manufacturers and other companies whose largest emissions arise from the use of their products often include those emissions in their inventories. Companies participating in emissions trading markets have realized that it is important to maintain careful accounts of each type of emission to avoid double counting or trading the same emissions twice. Most companies report that they have developed their inventories through a "learn by doing" approach.

Setting targets for reduction. A number of companies have set targets for reducing the greenhouse gas emissions in their inventory. Some have set targets in absolute terms, while others have pledged to reduce emissions relative to production or revenue. Still others have expressed their commitment in terms of cutting energy use. Among the companies that have set absolute emission reduction targets, Nike has pledged to reduce greenhouse gas emissions 13 percent below its 1998 inventory by 2005. DuPont set a goal (and has already surpassed it) of reducing greenhouse gas emissions 65 percent below its 1990 inventory by 2010. Using the same target date and baseline date, Alcoa has pledged a 25 percent reduction, British Petroleum 10 percent, and Johnson & Johnson 7 percent. Eastman Kodak has committed to reducing its energy use 15 percent by 2004 below the amount it consumed in 2000.

Among companies that have pledged to reduce emissions relative to output or revenue rather than in absolute terms, Pfizer has plans to reduce its greenhouse gas emissions by 35 percent for every dollar in revenue the company earns by 2007 using 2000 as its baseline year. Baxter International has pledged to make a 30 percent reduction per unit of production value by 2005 using 1996 as its baseline year. And United Technologies Corporation committed to a 40 percent reduction per dollar of revenue by 2007 using 1997 as its baseline and has already met that target.

Improving energy efficiency. Improving energy efficiency reduces greenhouse gases, and may also save a company money. Some companies are improving the efficiency of their manufacturing processes or their lighting and heating systems. Reductions of greenhouse gas emissions, which accompany these efficiency gains, are often viewed as a bonus. For example, United Technologies Corporation and IBM have found that energy efficiency provides a significant opportunity to save money and reduce greenhouse gas emissions.

Changing manufacturing processes. Some companies are altering their manufacturing process to reduce emissions of potent greenhouse gases such as nitrous oxide or fluorocarbons. For example, DuPont met a substantial portion of its commitment to reduce greenhouse gas emissions by reducing emissions of nitrous oxide in the nylon manufacturing process. IBM pledged to reduce emissions of perfluorocarbons, a potent greenhouse gas, by 40 percent per unit of production (and 10 percent in absolute terms) from its semiconductor manufacturing operations.

Green power purchasing. In states that allow consumers to choose among utilities, companies can reduce emissions by switching, in whole or in part, to “green power” suppliers, which generate electricity from renewable energy sources that do not emit greenhouse gas, such as wind, solar, biomass, and geothermal. For example, Staples, Bristol-Myers Squibb and Johnson & Johnson have purchased or are purchasing “green power” that allows them to claim significant reductions in greenhouse gas emissions.

Sequestration. A number of businesses have been “road-testing” carbon sequestration projects – the long-term storage of carbon dioxide in its organic form in forests or soils, or in liquid form in the ocean, so as to prevent its release into the atmosphere. For example, DTE Energy, Wisconsin Energy Corporation, Georgia-Pacific, and Weyerhaeuser, are working to enhance carbon sequestration in forests and soils to offset their greenhouse gas emissions. American Electric Power and British Petroleum are developing technologies to sequester carbon dioxide in the ocean or in underground, depleted oil and gas reservoirs, coal seams, or saline aquifers. Many scientists believe that there is much still to learn about whether the carbon dioxide placed in these so-called carbon sinks can be considered to be permanently removed from the atmosphere.

Why are companies reducing greenhouse gas emissions?

According to a variety of recent reports that have surveyed business practices,¹ businesses that are investing to reduce greenhouse gas emissions do so because they believe such investments will help them compete.

¹ See World Resources Institute, “A Climate of Innovation: Northeast Business Action to Reduce Greenhouse Gas Emissions,” (2004); Pew Center on Global Climate Change, “Corporate Greenhouse Gas Reduction Targets,” (2001); Kolk, A., and J. Pinske, “Market Strategies for Climate Change,” *European Management Journal*, 22 (3):304-14 (2004); Coalition for Environmentally Responsible Economies (Ceres), “Electric Power Climate Risk Disclosure: A Comparison of 2004 Reports Released by American Electric Power, Cinergy and TXU.” (2005). In addition, a number of companies have issued annual reports, which describe their actions to reduce greenhouse gas emissions and their rationale.

Reducing greenhouse gases can make a company more competitive in a variety of ways. Actions to reduce emissions can make a company more energy efficient or can lead it to develop new products. Such advantages can benefit a company's bottom line, even if the company never encounters pressure to reduce greenhouse gases in the future.

Companies also decide to reduce greenhouse gases as a way to manage future risks as many appear to view as real the possibility that shareholders, creditors, or governments may some day require them to reduce their emissions of greenhouse gases. Some companies take the position that the scientific evidence that man-made greenhouse gas emissions may be harming the climate is credible.² Others are "hedging their bets" either about future climate change or about future constraints on emissions. In the process, some companies have discovered that emission reductions can in fact benefit them today. For example, while compiling a greenhouse gas inventory, some companies have discovered opportunities to improve efficiency that they had not previously identified.

These are some of the reasons that businesses have found compelling enough to justify their taking steps to inventory or reduce greenhouse gas emissions:

Increased efficiency saves money. Investments in energy conservation and efficiency can yield direct savings in energy costs and lower the per-unit cost of production for some companies. For example, between 1990 and 2000 DuPont held its energy use constant while boosting its production by 35 percent, saving the company \$2 billion. Efficiency and conservation are particularly valuable to companies whose greenhouse gas emissions come from the energy purchased from electric utilities, as reducing expenditures for electricity purchases can directly benefit such a company's bottom line.

Competitive advantages may go to innovators. A number of companies are betting that future markets will favor more energy efficient products. For automobile and appliance manufacturers that make products that use electricity or that themselves emit greenhouse gases, creating more efficient products may give these companies a competitive advantage. It may also improve the public's perception of the company as being environmentally responsible. For example, a number of automakers are investing in hybrid vehicle technologies, which are up to 50 percent more efficient than conventional gasoline engines. Whirlpool, whose products are responsible for 95 percent of its greenhouse gas emissions, has committed to reducing the emissions from its products by 3 percent between 1998 and 2008. General Electric recently announced plans to double its spending on developing environmental and energy-efficient products and to double revenue from those products to \$20 billion by 2010.

² The aluminum manufacturer Alcoa, Inc., has said on its website that "the time for debate is long past" and that while "the science may or may not be incomplete, [i]f you get this one wrong, you don't get a second chance." On its website, British Petroleum says, "There is an emerging consensus that climate change is, at least in part, linked to the production and consumption of carbon based fuels. As a major supplier of these fuels it's only right that we play a part in finding and implementing solutions to one of the greatest challenges of this century."

Early action is a hedge against future regulations or other pressures. Although companies are facing a good deal of investment and regulatory uncertainty surrounding reduction of greenhouse gas emissions, some companies have decided that acting in the near-term is more cost-effective than reacting later when there may be less uncertainty, but potentially higher costs. They believe that beginning to reduce emissions now and continuing steadily over time will be cheaper than being forced to make large reductions all at once in the future should it become necessary to do so. For example, companies are measuring and tracking their greenhouse gas emissions and participating in a variety of emissions trading programs to learn how to track and trade emissions. Dow Corning and Baxter International are two of a number of companies participating in the Chicago Climate Exchange, a voluntary market to demonstrate trading of CO₂ emissions. These companies appear to believe that first-hand knowledge of how greenhouse gas markets work may benefit them in the future.

Direct financial risk from climate change. Some companies face direct financial risks from climate change. For example, insurance companies and the companies that reinsure them are beginning to recognize financial risks from climate change. On its website, Swiss Re, one of the leading global reinsurers, says that “the world of insurance and reinsurance will have to face a new challenge: developing and implementing strategies and business solutions to deal with climate change and a carbon-constrained future.” The company says that climate change may alter not only the average losses faced by insurers, but the range and annual fluctuations of those losses.

Pressure from investors and lenders to reduce risk. Individual and institutional shareholders as well as the lending arms of major financial institutions are increasingly concerned with the risks they might face should regulation, public perception or other pressures one day induce companies to emit fewer greenhouse gas emissions. They are beginning to recognize that some companies within a given sector will likely perform better than others should reductions in greenhouse gas emissions ever be required. To protect the future value of their stocks, an increasing number of investors have introduced shareholder resolutions calling on companies to develop climate change strategies, cut greenhouse gas emissions, invest in renewable energy, and disclose greenhouse gas information. In addition, lending institutions, such as Bank of America and JPMorgan Chase, have committed to figuring out how to take these considerations into account in their investment decisions. There has also been growth in specialized stock indices, such as the Dow Jones Sustainability Index, that recognize companies that are taking early action and that attract some investors seeking “green” stocks.

Influencing the policy and regulatory debate. Some companies believe that their experience in applying various approaches to reducing greenhouse gases to their operations will lend credibility to their efforts to shape climate policy. For example, American Electric Power has committed to reduce or offset emissions by 4 percent between 2003 and 2007 and is gaining real world experience in tracking, reducing and trading greenhouse gas emissions by participation in the Chicago Climate Exchange. These actions, the company has said, have put it in a better position to inform the current policy debate on climate change. Duke Power’s CEO recently announced steps that his

company would take to reduce greenhouse gas emissions. In addition, in an attempt to influence the national policy debate, he also called for an economy-wide, mandatory carbon tax to reduce the dependence of our economy on fossil fuels and thus lower greenhouse gas emissions.

Questions to the witnesses.

The witnesses were asked to respond in their testimony to the following questions:

Mr. James Rogers, Cinergy

- What concrete actions is Cinergy taking to reduce greenhouse gas emissions? In what ways are they beneficial to Cinergy?
- Why is Cinergy taking these actions and what are the most important drivers for them?

Dr. Mack McFarland, Dupont

- What concrete actions is DuPont taking to reduce greenhouse gas emissions? In what ways are they beneficial to DuPont?
- Why is DuPont taking these actions and what are the most important drivers for them?

Mr. Ronald Meissen, Baxter International

- What concrete actions is Baxter Healthcare taking to reduce greenhouse gas emissions? In what ways are they beneficial to Baxter?
- Why is Baxter taking these actions and what are the most important drivers for them?

Dr. Robert Hobbs, United Technologies Corporation

- What concrete actions is UTC taking to reduce greenhouse gas emissions? In what ways are they beneficial to UTC?
- Why is UTC taking these actions and what are the most important drivers for them?

The following companies are among those that are taking action to address greenhouse gases. The lists include companies participating in the Pew Center's Business Environmental Leadership Council (BELC) or the Environmental Protection Agency's (EPA) Voluntary Climate Leaders Program. Some companies participate in both.

According to the Pew Center's web site, members of the Business Environmental Leadership Council (BELC) are taking any of the following types of action to address greenhouse gas emissions: set targets for emissions reductions; implement innovative energy supply and demand solutions; participate in emissions trading; and invest in carbon sequestration opportunities and research. They also agree on several beliefs:

1. We accept the views of most scientists that enough is known about the science and environmental impacts of climate change for us to take actions to address its consequences.
2. Businesses can and should take concrete steps now in the U.S. and abroad to assess opportunities for emission reductions, establish and meet emission reduction objectives, and invest in new, more efficient products, practices and technologies.
3. The Kyoto agreement represents a first step in the international process, but more must be done both to implement the market-based mechanisms that were adopted in principle in Kyoto and to more fully involve the rest of the world in the solution.
4. We can make significant progress in addressing climate change and sustaining economic growth in the United States by adopting reasonable policies, programs and transition strategies.

According to EPA's Climate Leaders web site, EPA's Climate Leaders program is an EPA industry-government partnership that works with companies to develop long-term comprehensive climate change strategies. Partners set a corporate-wide greenhouse gas (GHG) reduction goal and inventory their emissions to measure progress. By reporting inventory data to EPA, Partners create a lasting record of their accomplishments. Partners also identify themselves as corporate environmental leaders and strategically position themselves as climate change policy continues to unfold.

3M
ABB
Air Products
Advanced Micro Devices, Inc.
Alcan Aluminum Corporation
Alcoa
American Electric Power
Ball Corporation

Baltimore Aircoil Company
Bank of America Corporation
Baxter International
Boeing
BP
California Portland Cement
Calpine

Caterpillar, Inc.
 CH2M Hill
 Cinergy Corp.
 Cummins, Inc.
 Deutsche Telekom
 DTE Energy
 DuPont
 Eastman Kodak Company
 EMC Corporation
 Entergy
 Exelon Corporation
 Fetzer Vineyards
 First Environment, Inc.
 FPL Group, Inc.
 Frito-Lay, Inc.
 GAP Inc.
 GE Transportation
 General Motors Corporation
 Georgia-Pacific
 Green Mountain Energy Company
 Hasbro, Inc
 Hewlett-Packard Company
 Holcim
 IBM
 Intel
 Interface, Inc.
 International Paper
 Johnson & Johnson
 Johnson Controls, Inc.
 John Hancock Financial Services
 Lafarge North America Inc.
 Lockheed Martin
 Mack Trucks, Inc.
 Marriott International, Inc.
 Maytag
 Melaver, Inc.
 Miller Brewing Company
 National Renewable Energy Laboratory
 NiSource Inc.
 Noble Corporation
 Norm Thompson
 Oracle Corporation
 Outfitters, Inc.
 Novartis
 Ontario Power Generation

Pfizer Inc.
 PG&E Corporation
 Polaroid Corporation
 Praxair, Inc.
 PSEG
 Quad/Graphics Inc.
 Raytheon Company
 Rio Tinto
 Roche Group U.S. Affiliates
 Rohm and Hass
 Royal Dutch Shell
 Shaklee Corporation
 SC Johnson
 St. Lawrence Cement
 Staples, Inc.
 STMicroelectronics
 Sun Microsystems, Inc.
 Sunoco
 Target Corporation
 Tenneco Automotive
 The Collins Companies
 The Hartford
 Toyota
 TransAlta
 Tyson Foods, Inc.
 U.S. Steel Corporation
 United Technologies Corp.
 Unilever HPC
 Volvo Trucks North America, Inc.
 We Energies
 Weyerhaeuser
 Whirlpool
 Wisconsin Energy Corporation
 Xerox Corporation

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